

## SUMMARY

shipped on blue ice; store at -20 °C

For research use only

## Description

TurboLigation™ Kit enables quick ligation of both blunt-end or cohesive-end DNA fragments in just 5 minutes at room temperature. The kit combines TurboLigase™, an ultrapure recombinant T4 DNA Ligase, and 5x TurboLigation buffer, an optimized quick ligation buffer. A 5 minute TurboLigation reaction offers the same efficiency as a traditional 16 °C overnight ligation reaction. The reaction product is ready for bacterial transformation without any further treatment. There is no need to heat-inactivate the TurboLigase, dilute the reaction, or purify the DNA before chemical transformation.

## Components

TurboLigase and 5x TurboLigation Buffer, specially formulated for high efficiency ligation.

## Applications

- Adding linkers or adapters to DNA
- Blunt or cohesive end ligation of duplex DNA
- DNA cloning

## Ligation reaction

Warm 5x TurboLigation Buffer to room temperature (22 – 25 °C) before setting up the ligation reaction.

Keep TurboLigase at -20 °C.

Thaw competent cells (not included) on ice.

Prepare a 10 µl reaction at room temperature:

5x TurboLigation Buffer	2 µl	
Vector	_ µl	total vector and insert volume up to 7 µl
Insert	_ µl	use ~ 1:3 molar ratio of vector to insert
adjust volume with pure water to	9 µl	
TurboLigase (5 U/µl)	1 µl	add TurboLigase last to increase ligation efficiency

Mix gently and incubate at room temperature for 5 minutes. Incubation between 5 to 10 minutes gives the best result. Chill the reaction on ice for 1 minute. Use 1 - 3 µl of the ligation reaction for transformation.

## Unit definition

0.015 Weiss unit (1 cohesive end ligation unit) is defined as the amount of enzyme required to give 50% ligation of HindIII fragments of λ DNA (5' DNA termini concentration of 0.15 µM) in a total reaction volume of 20 µl in 30 minutes at 16 °C in a buffer of 50 mM Tris-HCl, pH 7.5, 10 mM MgCl<sub>2</sub>, 1 mM ATP, 10 mM dithiothreitol.

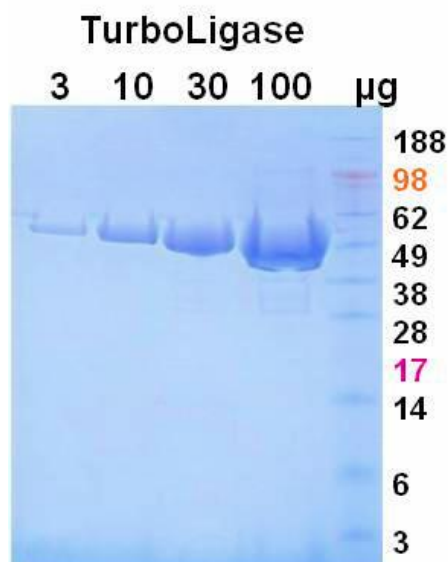
# TurboLigation™ Kit

Product Information Sheet  
# GE-TLK0110



## TurboLigase specific activity and purity

TurboLigase has a specific activity of > 12,000 units/mg. TurboLigase is purified to homogeneity.



## Order Information, Shipping and Storage

Order#	Product	Quantity
GE-TLK0110-1	TurboLigation™ Kit	100 reactions
GE-TLK0110-2	TurboLigation™ Kit	500 reactions
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## Storage conditions

Store TurboLigase and 5x TurboLigation Buffer at -20 °C.

TurboLigase and 5x TurboLigation Buffer are stable for 12 months from date of receipt.

FOR RESEARCH USE ONLY. NOT INTENDED FOR HUMAN OR ANIMAL DIAGNOSTIC OR THERAPEUTIC USES.

## Contact and Support

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